Beneficial effects of offering prenatal HIV counselling and testing on developing a HIV preventive attitude among couples. Abidjan, 2002-2005.

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Runing head : Beneficial effects of offering prenatal HIV counselling and testing

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ABSTRACT (163 words)

Prenatal HIV counselling and testing is mainly an entry-point to the prevention of mother-to-child transmission of HIV, but it may also play an important role in triggering the development of spousal communication about HIV and sexual risks and thus the adoption of a preventive attitude.

In Abidjan, Côte d'Ivoire, we investigated couple communication on STIs and HIV, male partner HIV-testing and condom use at sex resumption after delivery among three groups of pregnant women who were offered prenatal counselling and HIV testing : HIV-infected women, uninfected women, and women who refused HIV-testing.

The proportion of women who discussed STIs with their regular partner greatly increased after prenatal HIV counselling and testing in all three groups, irrespective of the women's serostatus and even in the case of test refusal. Spousal communication was related to more frequent male partner HIV-testing and condom use.

Prenatal HIV counselling and testing proposal appears to be an efficient tool to sensitize women and their partner to safer sexual practices.

KEY-WORDS : prenatal HIV counselling and testing, couple, HIV/STIs, Africa, prevention

Introduction

In Africa, the prevention of heterosexual HIV transmission has not yet reached the coverage and intensity required by the magnitude of the pandemic (Bunnell, Mermin, & De Cock, 2006). This is particularly true between regular sexual partners, among whom the adoption of consistent preventive behaviours remains largely insufficient (Van Rossem, Meekers, & Zkinyemi, 2001). The development of HIV prevention strategies targeting couples as well as individuals seems increasingly relevant to improving the prevention of unsafe sexual behaviours. A large percentage of new infections in Africa occur within the couple, through the sexual transmission of HIV between regular partners (UNAIDS, 2006). It is indeed within the married couple that the use of condoms remains most problematic. Condoms are frequently associated with the idea of occasional sexual intercourse (Van Rossem et al., 2001). For most married men and women, condom use appears to be relevant for preventing sexual risks in extramarital partnership (Chimbiri, 2007). It is not well accepted in sexual relations within stable couples (Bond & Dover, 1997; Hogsborg & Aaby, 1992). Painter suggests that, to improve the use of condoms within married couples, one needs to take into account how the couple communicates about condom use, and not only the couple's knowledge of condoms or condom availability (Painter, 2001). Dialogue within couples may be indeed considered as a prerequisite to a change in sexual behavior, as it has been observed to be for family planning (Babalola, 1999).

Services meant to prevent mother-to-child transmission of HIV (PMTCT) are now available at moderate cost in most countries affected by the HIV/AIDS epidemic (Ekouevi, Tonwe-Gold, & Dabis, 2005) and may play an important role in risk reduction strategies within the couple. The first step of these PMTCT interventions providing antiretroviral drugs consists of systematically offering HIV counselling and testing to pregnant women attending antenatal care services. In the African context, HIV-testing has until now remained unfrequent (UNAIDS, 2006). Development of PMTCT programs will improve the access to and

coverage of HIV counselling and testing, reaching women who would not access HIV testing otherwise (De Cock & Grubb, 2006). But women who are offered counselling and HIV testing in antenatal consultation are often the first to be counselled and HIV-tested within their couple. These women are thereafter advised to share their counselling with their partner. They become responsible for encouraging him to get tested for HIV and to develop a preventive attitude towards HIV/AIDS. For HIV-negative women, leading their partner to such an attitude is an important condition to preserve their negative HIV-status (McIntyre, 2005).

In this paper, we investigated with a quantitative study the effect of offering such prenatal counselling and testing on couple communication about STIs, HIV, and sexual risk prevention among three groups of women in a West-African city : HIV-positive, HIV-negative and those who refused to be HIV-tested.

Population and Methods

Study population and design

Our study took place within a multidisciplinary PMTCT research programme, ANRS DITRAME PLUS, conducted in Abidjan, Côte d'Ivoire, from 2001 to 2005. Among the services provided, prenatal counselling and HIV testing was systematically offered to every pregnant women attending seven antenatal clinics in Abobo and Yopougon (Ekouevi, Leroy, Viho, & al., 2004). These two districts are located in Abidjan, the economic capital of Côte d'Ivoire. Women who accepted the HIV test and who were HIV-infected entered the PMTCT programme fully described elsewhere (Becquet, Ekouevi, Viho, & al., 2005; Dabis, Becquet, Ekouevi, & al., 2005) and were followed-up during two years after the delivery.

HIV-negative women and women who refused to be tested for HIV were offered a reproductive health oriented follow-up, with one visit to the health center every six months for the two years following the delivery. No monetary incentive was offered to the

participating women, other than the reimbursement of transportation fees. But mother-infant pairs had access to free health care services, regardless of their HIV status. Women were encouraged to suggest HIV testing to their partner and free HIV counselling and testing was provided to the women's partners and relatives who requested it.

Data collection

At the time when the counselling and testing were offered, we collected data on women's socio-demographic characteristics and on condom use, communication with the partner about STIs, and partner HIV testing during the two years preceding the current pregnancy. During each follow-up visit, standard questionnaires were administered to all women to document the resumption of sexual activity after delivery. Among women who performed their 18-month post-partum visit between February 2004 and February 2005, data were collected on communication with the partner regarding HIV and sexual risks, on condom use at sex resumption and on HIV-testing of the male partner since the initial offer of the HIV-test. We asked women if they had discussed STIs with their partner at least once since the test offer, if they disclosed their HIV-test result to their partner, if they suggested at least once to their partner to undertake HIV testing, and if they suggested their partner to use condoms if he had extraconjugal intercourse. Condom use at sex resumption was collected from the following question : "since last visit, if you resumed sexual activity, did you use condom ? *Answer 1* : no, *answer 2* : yes, sometimes, *answer 3* : yes, systematically".

The same structured, close-ended questionnaires were administered to the HIV-infected women (participating in the PMTCT programme) as the HIV-uninfected women and the women who refused to be HIV-tested (participating in the reproductive health follow-up). Questionnaires were administered during individual 40-minute-long interviews, in private rooms to secure maximum confidentiality, by specially trained social workers and midwives participating in the program.

Statistical analysis

Baseline socio-demographic characteristics of the three groups of women were described and compared with the Pearson Chi-square test.

Proportions of women who had discussed STIs with their partner prior to and following prenatal offer of counselling and HIV-testing were compared with a McNemar test. We also compared with a McNemar test the proportion of women who reported having ever used condoms with their regular partner within the two years preceding the pregnancy and the proportion of women who declared they used condoms (sometimes or systematically) when they resumed sexual relations after delivery.

A Pearson Chi-square test was used to compare indicators of conjugal communication about sexual risks between HIV positive and HIV negative women, and between HIV negative women and women having refused to be tested. We analysed the effect of these indicators of conjugal communication adjusted on HIV-status and socio-demographic variables on the probability that the partner had been HIV-tested over the study period using logistic regression with stepwise descendant procedure.

We analysed how religion, education, partner HIV testing and communication about sexual risks within couples were related to frequency of systematic condom use at sex resumption, for each HIV-status. The significance of these relations were measured by a Pearson Chi 2 test.

Results :

Between August 2002 and August 2003, 475 HIV-infected women, 400 HIV-negative women and 62 untested pregnant women entered the programme. Of these, 128 (26.7%), 45 (11.3%) and 10 (16.1%) did not perform their 18-month post-partum visit, leaving 347 HIV-infected, 355 HIV-negative and 52 untested women. For this couple-centered study, we

excluded 41 HIV-infected women and 3 HIV-negative women since they did not declare any regular partner at any moment of the follow-up.

No differences in education level and religion were observed between HIV-infected and HIV negative women (see Table 1). Compared to HIV-negative women, HIV-infected were slightly older and more often in polygamous union, and on average they had had their first sexual intercourse half a year earlier. The group of women who refused to be HIV-tested was similar to the HIV-negative group for age and age at first intercourse, but had a higher education level than the women tested for HIV. Most of these untested women were christians and in monogamous unions. The women who refused to be HIV tested had not been previously tested.

Couple communication on sexual risks

Indicators of communication about sexual risks were quite similar between HIV-negative women and women who refused to be tested, for both periods (see Table 2). Two-thirds of the women from these two groups had ever discussed STIs with their regular partner during the two years preceding the index pregnancy. After prenatal counselling and testing, more than 90% of them had discussed STIs with their partner, and suggested their partner that he should undertake HIV testing and use condoms in case of extraconjugal relationships. This increase was significant ($p<0.01$, Mc Nemar test) for each group.

Among HIV-infected women, indicators prior to prenatal counselling and testing suggest less communication about sexual risks between partners : only 28% had discussed STIs with their regular partner during the two years preceding the index pregnancy (see Table 2). After prenatal counselling and testing, despite the fact that 57% of these women had not disclosed their HIV result to their partner, 65% of HIV-infected women discussed STIs with their partner (an increase of 37%, $p<0.01$, Mc Nemar test), 72% suggested their partner that he

should be HIV-tested, and 58% suggested the partner to use condoms in case of extraconjugal relationships.

At the end of the survey, among the 62 women who had refused the prenatal proposition of HIV testing and who entered the study, 11 (18%) accepted to be tested when they were re-proposed. One among 11 was HIV infected.

HIV testing of the partner over the post-partum period

When entering the programme, 41 women had a male partner already HIV-tested (26 HIV-infected women, 13 HIV- negative women and 2 women having refused to be tested). During the follow-up, among male partners not previously tested, 25% of the partners of HIV-infected women, 13% of the partners of HIV-negative women and 6% of the partners of untested women performed an HIV-test (see Table 3). After adjustment, the only variables associated with the partner's HIV-testing during follow-up were the fact that the woman had suggested her partner to get an HIV-test (OR=4.0 [1.5-10.8]), the woman's HIV-infection status and living in individual rather than shared housing (see Table 3).

Condom use

In the two years prior to the test proposal, 36% of HIV-negative women and 52% of untested women had used condoms at least once. When they resumed sexual relations after delivery, these proportions increased to 59% and 57% (see Table 2). The increase was significant for HIV-negative women ($p<0.01$, Mc Nemar test). Among HIV-infected women, only 23% had used condoms at least once with their regular partner during the two years preceding the index pregnancy. After prenatal counselling and testing, 49% used condoms when they resumed sexual activity (an increase of 26%, $p<0.01$, Mc Nemar test).

When considering only "systematic condom use" after delivery, levels were lower : one couple out of three used condoms when the woman was HIV-infected or had refused to be tested, and 27% when the woman was HIV-tested and negative. For HIV infected women,

discussing STIs with the partner and suggesting him to undertake its HIV-testing was associated with a better systematic use of condoms. Condom use was more frequent when the male partner had been HIV-tested and it was maximum when both partners were HIV-infected (see Table 4). For HIV-negative women and those who refused the HIV-test, the few women who did not discuss these topics with their partner did not use condom at sex resumption (see Table 4).

Discussion

In this study we observed that the prenatal offer of HIV counselling and testing is followed by a high level of communication about HIV and/or sexual risks between women and their regular partners, irrespective of the women serostatus and even in the case of test refusal. This spousal communication about HIV and/or sexual risks, when it existed, was related to more frequent male partner HIV-testing and condom use at sex resumption after delivery.

A limit of our study is that we conducted it within a population participating in a research program offering systematic prenatal HIV testing and counselling but not in the operational context of PMTCT services delivery. The effect of prenatal HIV counselling and testing documented here is thus likely to have been higher than what would have been observed within the national programme where free and continuous counselling, follow-up and support of women are not provided. However, this setting enabled us to observe a strong effect of prenatal HIV counselling and testing on postnatal spousal communication and on AIDS preventive attitude, with reliable informations resulting from the controlled anteriority of HIV-testing. Hence conclusions drawn from this specific context may be useful to other operational contexts. Another limit of our study is that we could only collect self-reported data from women, and none from their partners. Thus, our data may suffer from overestimation due to positive self-representation on the part of women. Nevertheless, this may have equally affected all the women participating in the survey and thus may not be a

source of bias. Moreover, previous surveys conducted in the same population showed that there are very few taboos in this population concerning sexuality that could have lead to information bias. Women answer usually easily on these subjects (Desgrees-du-Lou & Brou, 2005; Desgrees-Du-Lou et al., 2002).

Previous studies have shown a beneficial effect of voluntary counselling and testing regarding prevention of sexual risks (Allen, Meinzen-Derr, Kautzman, Zulu, & Trask, 2003; DiFranceisco Wayne, Pinkerton Steven, Dyatlov Roman, & Geoffrey, 2005), but few have dealt with prenatal counselling and testing systematically offered to pregnant women. Nevertheless, counselling to develop safer sex practices is essential during pregnancy and the post-partum period, which place women at high risk of HIV infection for hormonal and behavioural reasons (Cleland, Ali, & Capo-Chichi, 1999; Gray et al., 2005; Leroy et al., 1994). When available, most studies on prenatal counselling and testing concern only HIV-infected women (Medley, Garcia-Moreno, McGill, & Maman, 2004). Limited information is available on the role of prenatal counselling and testing for HIV-negative women or women who refuse the test. Our figures confirm the beneficial effect of prenatal counselling and testing when the woman is HIV-infected, and also reveal a positive effect of this prenatal counselling and testing for pregnant women uninfected or who refuse to be tested.

We assessed the beneficial effect of prenatal HIV counselling and testing not only by indicators of protection of sexual intercourse and male partner HIV-testing but also by the spousal communication regarding sexual risks. Family planning studies have shown a strong positive correlation between spousal commmunication and contraceptive use (Babalola, 1999; Dodoo, 1998; Ezeh, 1993). This positive relationship between spousal communication and contraceptive use suggests the potential importance of spousal communication in AIDS prevention. The few studies available on this subject confirm a positive relationship between partner communication and condom use (Zamboni, Crawford, & Williams, 2000). HIV

prevention is greater among couples where there is a spousal discussion of HIV issues (Bühler & Kohler, 2003). Our results confirm a positive relationship between spousal communication about HIV or STIs and preventive behaviour towards AIDS (condom use, HIV testing of male partner). Moreover, our study points out that prenatal counselling and testing is a good "stimulus factor" (as it has been described in (Zulu & Chepngeno, 2003) to develop this spousal communication about AIDS and sexual risks. This conjugal talk on sexual risks is accompanied by an increase in condom use if comparing to the level measured before the pregnancy. When considering "systematic condom use", levels obtained remain too low to ensure an efficient prevention of HIV transmission in the couple. Nevertheless it is a progress if comparing to condom use level measured in the general population : in the last Demographic and Health survey in this country, less than 2% of "in union" women and 7% of "in union" men used a condom at the time of the survey ((INS) & Macro, 2001).

Eventually, our study gives a unique comparison between three groups of women : HIV-infected women, HIV-negative women and those who had refused to be tested for HIV. For women aware of their HIV infection, the lower level of spousal communication about HIV, compared to HIV-negative women, suggests that discussions related to HIV/AIDS in general and to their own HIV-status in particular were perceived as risky, related to the fear of being rejected by their partner (Medley et al., 2004) (even though the data collected within our study only documented a few cases of notified rejection). Nevertheless, our figures revealed that despite this fear, HIV-infected women engaged in a discussion of HIV after testing. Only 38% of them disclosed their serostatus to their partner, but 72% suggested that the partner get tested for HIV, and the proportion of women who discussed STIs with their partner doubled after counselling and testing.

For HIV-negative women, the effect of prenatal HIV counselling and testing, clearly positive in terms of inducing communication within the couple about STIs and HIV, was more

moderate in terms of effective prevention strategies. Only a small proportion of partners decided to be HIV-tested and one couple in four reported systematically protected sexual intercourse. We described in a previous study conducted among HIV-negative women how their partners don't practise their own HIV-test because they often consider the woman's HIV-status to be an indicator of their own HIV-status (Brou, Agbo, & Desgrees Du Lou, 2005). This misconception is largely refuted by the prevalence of HIV discordant couples in Africa (Allen et al., 2003; Kilewo, Massawe, Lyamuya, Semali, & Kalokola, 2001). These findings highlight the need to strengthen the counselling component targeted to HIV-negative women. It is necessary to improve counselling regarding the partner's HIV testing and the use of condoms until the partner has been HIV-tested. This counselling is even more critical after he has been identified as HIV-infected.

The experience of women who refused the HIV test is very rarely documented in the literature. During the course of the study, we could only include 62 women who had refused to be tested, for two reasons : first, the high level of HIV test acceptance (91%) (Ekouevi et al., 2004). Second, the reluctance of the women who refused to be HIV tested to enter a survey, with a refusal rate of 70%. It is possible that untested women who agreed to participate to our survey may be different from those who did not accept. Nevertheless, this small group of women, relatively homogenous, is very interesting *per se*: it reveals that there is a category of well educated, monogamous African women, used to talking about sexual risks with their partner and to using condoms, who refuse to be HIV tested. Moreover, despite their refusal to be tested, these women seem to have benefited from the HIV counselling provided during the pregnancy, since after this counseling, communication on STIs and HIV with their partner increased significantly and may be a first step on the way to adequate prevention.

It seems important to conclude that PMTCT programs might play a role not only in the prevention of mother-to-child transmission of HIV, but also in the prevention of sexual transmission. For HIV-infected women, prenatal HIV-testing constitutes the entry point to appropriate access to HIV care for themselves and their relatives. Furthermore, for all women, irrespective of their HIV status and their acceptance of the testing, it is a unique opportunity in resource-limited countries to receive appropriate and efficient counselling on sexual risks and to introduce communication related to STIs and HIV within their couple. Our findings show that women, who have more contacts than men with health care services throughout pregnancy and children care, may act as intermediaries between their partners and the healthcare system. Counseling delivered within PMTCT programs should then particularly address spousal communication regarding sexual risks, as it seems to be an effective first step to prevention strategies to fight the AIDS epidemic in Africa.

Table 1. Socio-demographic characteristics of women followed in the ANRS Ditrame Plus program after the offer of prenatal counselling and HIV testing, according to their acceptance of the HIV test and to their HIV status. Abidjan, Côte d'Ivoire. 2002-2005

	Accepted prenatal HIV testing		Refused HIV-testing	Pearson χ^2 test	
	HIV infected (n=306)	HIV-negative (n=352)	HIV status unknown (n=52)	χ^2 #	χ^2 $
Religion					
Christian	60.1	61.1	82.7		
Muslim	32.4	33.5	7.7	1.24	14.68**
Other	7.5	5.4	9.6		
Education level					
None	27.8	29.8	7.7		
Primary	36.3	37.8	44.2	0.95	12.15**
Secondary -1st cycle	22.5	20.7	28.8		
Secondary -2nd cycle	13.4	11.7	19.3		
Remunerated activity	51.0	46.6	32.7	1.26	3.54
Age					
18-19	4.6	8.8	7.7		
20-24	27.8	34.4	36.5	9.75*	0.80
25-29	39.9	32.7	36.5		
30-34	19.3	16.7	13.5		
35 and above	8.4	7.4	5.8		
Polygamous union	19.0	13.6	5.8	3.43	2.54
First sexual intercourse before 16 years old	55.6	49.9	34.6	2.15	4.22*
Housing					
Individual	36.6	42.6	51.9	2.47	1.60
Shared Housing[a]	63.4	57.4	48.1		

#: comparison between HIV positive vs HIV negative ; $: comparison between HIV negative vs HIV unknown

* p< .05, ** p < .01

a. Shared housing: typical housing with several houses organized around a yard where inhabitants live in crowded accommodation and share kitchen and restroom

Table 2. Communication between women and regular partners regarding STIs and HIV and condom use, prior to and following prenatal HIV testing, according to the women acceptance of the HIV test and to their HIV status. Abidjan, ANRS DITRAME PLUS program, 2002-2005.

	Accepted prenatal HIV testing		Refused HIV Testing
	HIV infected (n=306)	HIV-negative (n=352)	HIV status unknown (n=52)
Prior to HIV testing [1]			
Ever discussed STIs with their regular partner	28.4 %	65.1 %	67.3 %
Ever used condoms with their regular partner	23.2%	36.4%	51.9 %
Following HIV testing [2]			
Discussed STIs with their regular partner	65.0 %	96.6 %	90.4 %
Comparison prior to/ after HIV-testing (Mc Nemar test) :	*89.28***	*103.42***	*0.00[(a)]***
Disclosed their HIV result to their partner	42.8 %	97.4 %	80.8 % #
Suggested the partner to undertake HIV testing	71.6 %	96.6 %	90.4 %
Suggested the partner to use condoms in case of extra conjugal relationships	58.2 %	94.3 %	92.3 %
Used condoms with their partner after delivery	48.8 %	58.7%	57.1 %
Comparison prior to/after HIV-testing (McNemar test) :	*39.84***	*38.06***	*0.75[(a)]*

Notes (Table 2) :

[1] Prior to HIV testing: within the two years preceding the pregnancy when they were offered HIV counseling and testing

[2] Following HIV testing: between offer of HIV counseling and testing and the 18 month post-partum.

informed the partner they were offered an HIV-test

* $p < .05$, ** $p < .01$

(a) : binomial distribution used

Table 3. Logistic regression of the probability that the male partner was tested for HIV after the woman was offered antenatal counselling and HIV testing. Abidjan, Ditrame Plus, 2002-2005.

Variable	Modalities	Frequency of partner HIV tested % (n/N)	OR	[95% CI]
Woman suggested the partner to undertake HIV testing	Yes	19.8 % (111/562)	4.03	[1.50-10.82]
	No	8.0 % (8/100)	1	-
Woman's HIV status	Refused to be HIV tested	6.0 % (3/50)	0.13	[0.04-0.44]
	HIV-	13.3 % (45/339)	0.30	[0.18-0.49]
	HIV+	25.4 % (71/280)	1	-
Housing	Shared [a]	21.0 % (57/271)	0.59	[0.37-0.94]
	Individual	15.1 % (60/396)	1	-
Woman has a remunerated activity	Yes	19.1% (61/319)	1.54	[0.96-2.48]
	No	16.6% (58/350)	1	-
Partner's age	20-29	20.5 % (25/122)	1.45	[0.74-2.85]
	30-39	16.5 % (51/310)	0.86	[0.50-1.49]
	40 +	19.3 % (29/150)	1	-

Notes (Table 3) :

- a : Shared housing: typical housing with several houses organized around a yard where inhabitants live in crowded accommodation and share kitchen and restroom.
- *Variables introduced in the model:* woman's education level, partner's education level, type of union, woman's age, partner's age, woman's religion, woman's remunerated activity, woman's age at first sexual intercourse, individual housing or common courtyard, woman's HIV status, woman's discussion with the partner regarding her own HIV test, woman suggested her partner to undertake HIV testing. The model is a logistic regression with a stepwise descendant procedure. Only variables with $p<0.25$ in multivariate anaysis are presented.
- Women whose partner had been HIV tested before were excluded from the analysis (n=41). Logistic regression was performed among the women for whom the data on the partner's age and education level was available, i.e. 549 women.

Table 4. Systematic condom use (%) at sex resumption after delivery according to the women acceptance of the HIV test and to their HIV status. Abidjan, Côte d'Ivoire. 2002-2005.

	Accepted prenatal HIV testing						Refused HIV Testing		
	HIV infected (n=272)			HIV-negative (n=334)			HIV status unknown (n=49)		
	%	*n/N*	χ^2	%	*n/N*	χ^2	%	*n/N*	χ^2
Religion									
Christian	39.8	*66/166*	*10.13* **	31.2	*63/202*	*5.55*	35.7	*15/42*	*1.74*
Muslim	20.2	*18/89*		19.3	*22/114*		25.0	*1/4*	
Other	29.4	*5/17*		33.3	*6/18*		0	*0/3*	
Education level									
None	18.9	*14/74*	*12.27* **	16.7	*17/102*	*14.98* **	25.0	*1/4*	*0.75*
Primary	36.6	*37/101*		28.6	*36/126*		30.4	*7/23*	
Secondary – 1st cycle	32.2	*19/59*		28.4	*19/67*		30.8	*4/13*	
Secondary -2nd cycle and more	50.0	*19/38*		48.7	*19/39*		44.4	*4/9*	
Post test conjugal talk on sexual									
None	18.5	*10/54*	*6.90**	-	*0/1*	*0.38*	-	*0/2*	*1.01*
Discussed STIs with their regular partner	37.4	*68/182*	*3.72**	27.6	*90/326*	*0.90*	36.4	*16/44*	*2.70*
Disclosed their HIV result to their partner	36.8	*39/106*	*1.31*	27.3	*87/319*	*0.01*	39.0	*16/41*[a]	*4.64**
Suggested the partner to undertake HIV testing	38.2	*76/199*	*7.6***	27.7	*90/325*	*1.21*	33.3	*15/45*	*0.12*
Partner HIV tested[b]									
No	27.4	*51/186*	*6.47**	27.3	*76/278*	*5.81*	36.4	*16/44*	-
Yes, HIV+	50.0	*13/26*		-	*2/2*		-		
Yes, HIV-	38.9	*14/36*		22.9	*11/48*		-		
All	32.7	*89/272*		27.2	*91/334*		32.6	*16/49*	

Notes (Table 4) : Only couples having resumed sex before the 18 months post-partum survey were considered

* p< .05, ** p < .01

a. For women who refused to be HIV tested, we consider here those who told their partner they were offered an HIV-test

b. Data on male partner HIV-testing was missing for 24 femmes HIV+ women, 6 HIV- women and 5 women who refused to be tested.

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APPENDIX

Composition of the Ditrame Plus Study Group ANRS 1201/1202/1253

Bio-medical team :

Principal Investigators: François Dabis, Valériane Leroy, Marguerite Timite-Konan, Christiane Welffens-Ekra. *Coordination in Abidjan*: Laurence Bequet, Didier K. Ekouevi, Besigin Tonwe-Gold, Ida Viho. *Methodology, biostatistics and data management*: Gérard Allou, Renaud Becquet, Katia Castetbon, Laurence Dequae-Merchadou, Charlotte Sakarovitch, Dominique Touchard. *Clinical team*: Clarisse Amani-Bosse, Ignace Ayekoe, Gédéon Bédikou, Nacoumba Coulibaly, Patricia Fassinou, Apollinaire Horo, Ruffin Likikouët, Hassan Toure. *Laboratory team*: André Inwoley, François Rouet, Ramata Touré. *Psycho-social team*: Hortense Aka-Dago, Alphonse Sihé. *Scientific Committee*: Stéphane Blanche, Jean-François Delfraissy, Philippe Lepage, Laurent Mandelbrot, Christine Rouzioux, Roger Salamon

Social Science team :

Principal Investigators : Annabel Desgrées-du-Loû, Benjamin Zanou, *Coordination in Abidjan and quantitative survey:* Hermann Brou, *Qualitative survey* : Annick Tijou-Traore, Hélène Agbo, *Data Management* : Gerard Djohan

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